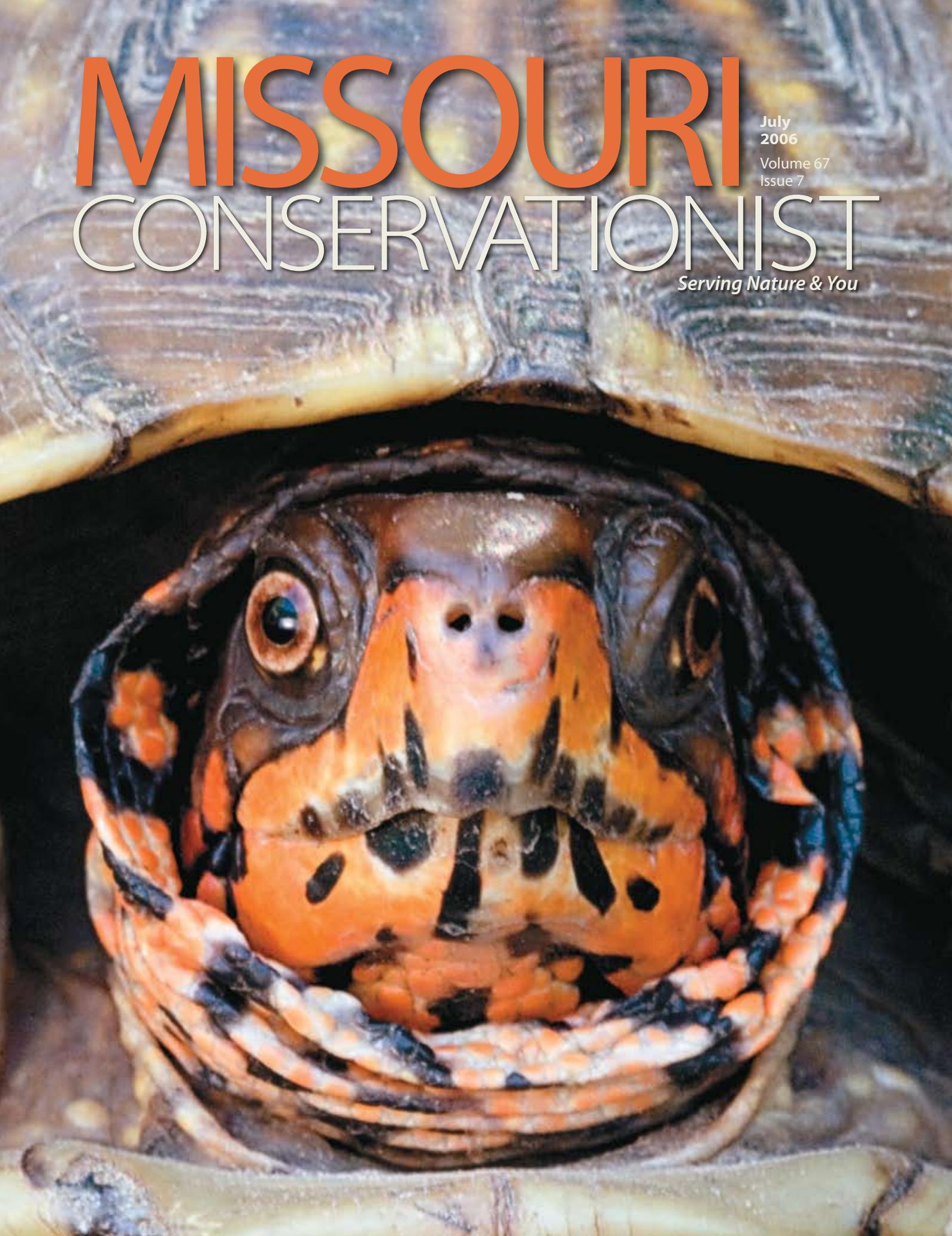


MISSOURI CONSERVATIONIST

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Serving Nature & You



Vantage Point

Strength in Diversity

Growing up on a farm in mid-Missouri, with a father who took me hunting and fishing, gave me a keen appreciation for the incredible diversity of natural resources in our state. I think this appreciation influenced my desire to work for the Department of Conservation, and I continually marvel at the variety of life that makes up our ecological system.

I like this “variety of life,” and it wasn’t until working for the Department that I came to understand this is the most straightforward definition of a very important conservation term—biological diversity. I know biological diversity is at the heart of ecosystem function and provides much of what is necessary to sustain human beings. Diverse ecosystems are stronger and more productive because they can withstand higher levels of stress and better adapt to change.

Because I work with the human resources side of the Department, I can easily translate the value of biological diversity to workforce diversity. According to the 2000 census, Missouri had a 12.9 percent minority population that was growing. Until 2025, the white population is projected to be the slowest-growing, while the Hispanic and Asian populations are projected to increase rapidly. It is a reminder of the importance we should place on cultural diversity issues.

The Department has a long-standing commitment to understanding the needs of Missouri citizens. Being stewards of Missouri’s fish, forest and wildlife carries a responsibility that goes beyond our mission of sustaining these natural resources. We must also inspire the public’s confidence in our ability to meet their needs, regardless of their backgrounds. A workforce that represents the unique cultural differences in our state is an important way of ensuring the public’s trust in our actions. Reaching out to various cultural groups through programs and activities is yet another.

I am very excited about the cultural diversity initiatives we have undertaken, many of which are a result of recommendations made by our internal Workforce Council (representatives of the council from various divisions of the Department are pictured above). The council assists the Department in designing diversity strategies that are in concert with our mission and objectives. The following are four strategies illustrating these efforts:

▲ **Youth Conservation Corps** hires youths to complete conservation work. Crew members range in age from 16 to 19. Many members are minorities. The majority of funding comes from a federal program and



From left to right: Rebecca Solum, Rudy Martinez, Debbie Strobel, Bill Bergh, Sherry Fischer and Chris Kennedy.

from partners such as the Division of Youth Services, Missouri Mentoring Partnership, East Missouri Action Agency and Lakes Country Rehabilitation Services.

▲ **Matthews-Dickey Boys & Girls Summer Program** is the largest boys and girls club in St. Louis, providing recreational, educational, cultural and leadership training to more than 40,000 youths annually. One of their many programs is a summer day camp for kids age 7 to 13, who are primarily from minority groups. The Department, through a partnership with the University of Missouri-St. Louis (UMSL), provides lesson plans for conservation-related field trips, which are conducted by UMSL student instructors.

▲ **The Wyman Center Conservation Program** encourages youths (grades 8–12) traditionally disconnected from the outdoors to gain a greater understanding of conservation careers and enhance their understanding of all outdoor recreational opportunities. The Department and the Wyman Center are working to improve the content and delivery of conservation programs at Wyman’s camps.

▲ **MDC Internship & Residency Program** attracts students who might contribute to the Department’s workforce diversity. Internships are provided at both the undergraduate and graduate levels, and emphasis is given to introducing top performers to the Department.

Whether the participants in these programs pursue careers in conservation or simply gain a greater understanding of how to conserve, manage and use our natural resources, a better relationship will exist. Differences must be embraced and valued, just like the diversity of each and every species.

Debbie Strobel, Human Resources Division Chief



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TEACHER'S PET

Terrific! (This May issue of your magazine.) I just had to express my deep appreciation. I have been a collector of your magazine for a very long time, and I always had a copy in my classroom for 30 years of teaching. What a delightful improvement over the years! Such glorious color, and the great addition of *Outside In* is sure to attract adults as well as children.

I also want to alert your readers to an active conservation group in the St. Louis area: Women's Voices. We are proud of the conservation activities so faithfully reported in this magazine. Thank you from all of us for this latest magnificent issue.

Margaret Hasse, St. Louis

MAKE SOME MEMORIES

My father purchased an out-of-state subscription for me a couple of years ago. I grew up in a little town called Dexter. My fondest memories of my

childhood are of fishing with my father at places such as Wappapello Lake, Mingo, Duck Creek, Otter Slough and many different farm ponds. I, too, am blessed with children that like to go fishing with their dad. Thank you for reminding me how important it is to spend quality time outdoors with our children.

Kevin Williamson, Youngstown, OH

I would like to start by telling you how grateful I am to your magazine. I have been receiving it for about four years now. My 6-year-old and I look forward to receiving it every month. It has given us an additional bonding experience. This magazine has taught my son and I a lot more about Missouri and what it means to us.

Doug Reeves, St. James

INTERNATIONAL ACCLAIM

I want to tell you how impressed and fascinated I am with the vivid and

colorful pictures of different animals, flowers, rivers, trees, prairies, lakes and places. It is so astounding! I am also impressed with Mr. Low for being noble-minded in his *News and Almanac* section; it really helps us to broaden our knowledge about nature.

*Melody P. Guillena
Mintal Davao City, Philippines*

THE TWO-POLE BLUES

I would like to thank you for the fine article in the June 2006 *Missouri Conservationist* on blue catfishing ["Catching Big River Blues"]. The only thing that was not mentioned in your article was that when fishing the Mississippi River, you can have only two unlabeled poles to fish with, whereas you can fish with three unlabeled poles anywhere else. This is on page 49, rule "3 CSR 10-6.410: Fishing Methods," per the *Wildlife Code of Missouri*, issued March 1, 2006. I was unaware of that rule myself until reading the regulation.

B.M. LaJeuness, Ballwin

Editor's note: The Wildlife Code of Missouri is available from permit vendors statewide. An online version may be accessed on the Missouri Secretary of State's Web site at www.sos.mo.gov/adrules/csr/current/3csr/3csr.asp.

RATHER'S EYE VIEW

Beautiful, delicate: "Prairie rose and an immature grasshopper" [May 2006 cover]. Jim Rathert has captured the miracle of nature in this exquisite photograph.

Betty Skulstad, Beaufort, NC

LOSE THE LOOSESTRIFE

Thanks for Bob Gillespie's interesting article about Missouri's introduced species ["Nonnative Nuisance," April 2006]. Though only a small proportion of these exotic species are classified as "invasive," they cause considerable ecological and economic damage.



HOW MUCH WOOD COULD A WHISTLE-PIG CHUCK?

It's no wonder that the woodchuck (*Marmota monax*) is also known as a groundhog. This stout, waddling rodent averages a total length of 16–27" but can weigh from 4–14 pounds. Its musky odor (used for communication) and burrowing habits only add to the image. They are sometimes called whistle-pigs because they produce shrill whistles and squeaks when alarmed. This young woodchuck lives with its four siblings beneath Jenn Voss' farmhouse in St. Robert.

In addition to Jim Rathert's always-exceptional photos, I particularly appreciated the information on how invasive species disperse, how they can be managed and where one can go for online resources.

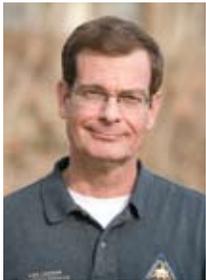
I'd like to add one more resource that addresses invasive plant species in Missouri. The Midwest Invasive Plant Network is a growing organization that addresses virtually all aspects of

invasive plant species in the upper Midwest. Information on problem species, control and management, current research, educational materials and even grants and jobs are available at www.mipn.org.

Steve Carroll
*member of the Education Committee
of the Midwest Invasive Plant Network
& associate professor of biology at
Truman State University*

The letters printed here reflect readers' opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q: We have a tree that grows large, long beans. We noticed today that there are about 100 caterpillars on it, and they have shredded the leaves. These caterpillars are 2-3 inches long and tannish with a black stripe down the back. What kind of tree is this, and what should we do about these caterpillars?

A: You're describing a catalpa tree and the caterpillars that use that tree. Northern catalpa (also known as a cigar-tree due to its unique seed pods) is a native Missouri tree. It was originally found in the bottomlands of southeast Missouri, but it's been planted all over the state in windbreaks and as an ornamental in yards. Catalpa "worms" are prized bait for some catfish anglers. If you can't find any enterprising anglers willing to relieve you of your caterpillar crop, you can visit with your local university extension office or consult this site: www.muextension.missouri.edu/explore/agguides/pests/g07270.htm. Fortunately, in most cases, there is no need to be overly concerned about the presence of this caterpillar. If you have Internet access, here are some additional sites that may be helpful:

www.missouriconservation.org/forest/urban/urbantre/2sm.html#anchor318476

www.hort.uconn.edu/plants/c/catspe/catspe1.html

www.cas.vanderbilt.edu/bioimages/species/casp8.htm

www.catalpaworms.com

www.ag.auburn.edu/enpl/bulletins/catalpasphinx/catalpasphinx.htm

Please be aware there are some caterpillars that not only make poor fish bait, but they can actually cause discomfort to those who handle them. Again, the university extension provides good information on this topic. For details, see this site: www.extension.missouri.edu/explore/agguides/pests/ipm1019.htm.

Ombudsman Ken Drenon will respond to your questions, suggestions or complaints concerning Conservation Department programs. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at Ken.Drenon@mdc.mo.gov.

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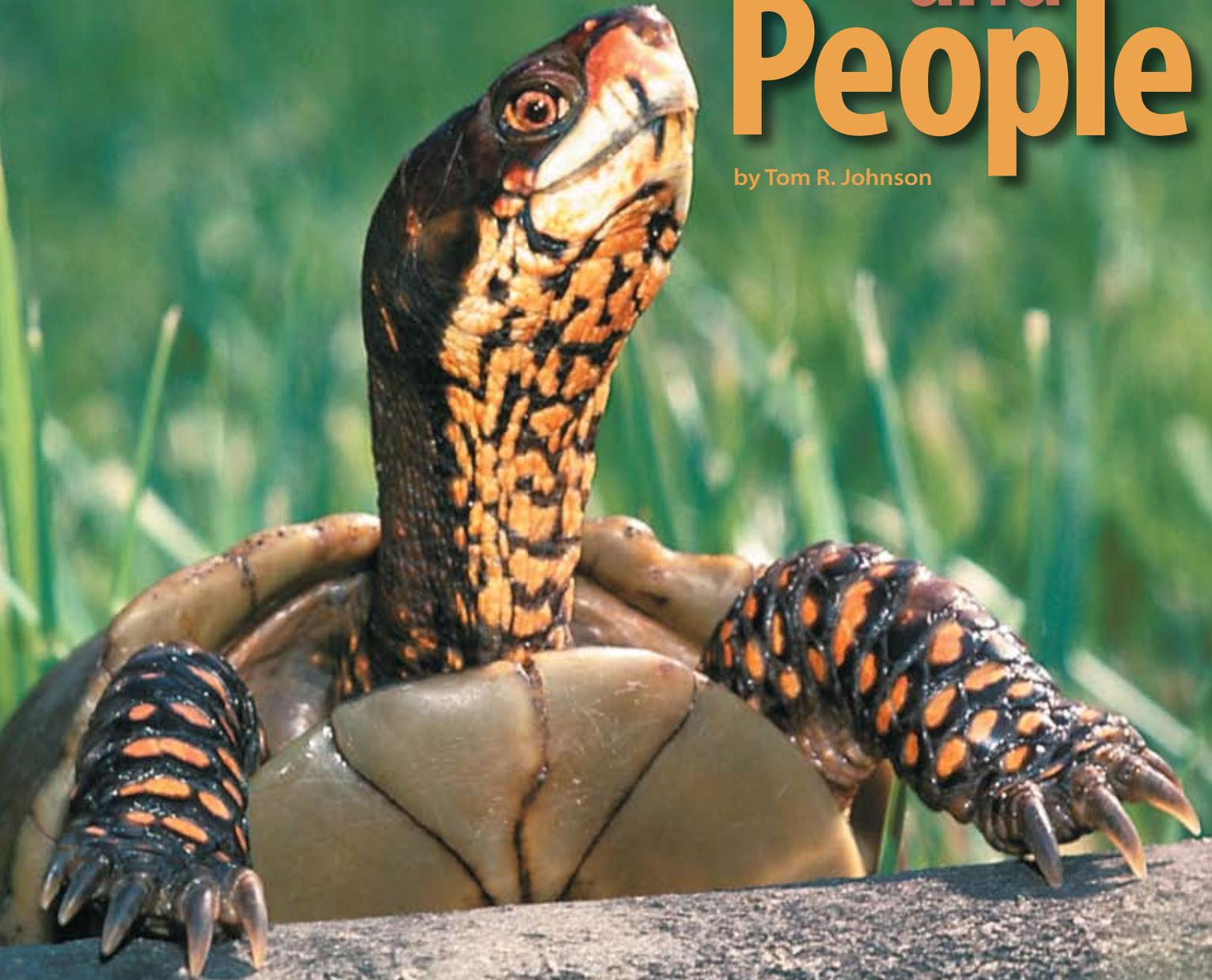
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Box Turtles and People

by Tom R. Johnson



TOM R. JOHNSON

Missouri's two box turtles may have thick shells, but they could use a little sensitivity.

Out of the 17 or so kinds of turtles native to Missouri, none are as well-known as our two species of box turtles. Even folks who aren't into fishing, hunting, hiking, bird watching or gardening have had opportunities to observe box turtles. Too often, unfortunately, such opportunities involve these reptiles trying to cross roads or highways.

The location of Missouri between the forested eastern United States and the prairies of the Great Plains has allowed plants and wildlife of the two regions to mingle. This is definitely the case with our two species of box turtle. The three-toed box turtle is closely related to a species found east of the Mississippi River, while the ornate box turtle has relatives to the west.

Turtle versus terrapin

The name "box turtle" refers to the ability of this reptile to tightly close its shell when frightened. It does this by

means of a hinge located across its lower shell. When startled, the turtle pulls its head and limbs into its shell for protection. Then it moves each half of the hinged lower shell up to meet the upper shell, thus closing like a box.

The name "terrapin" is often used for box turtles in Missouri, though it isn't quite correct. The dictionary's definition of the word terrapin refers to edible, aquatic turtles found in fresh and brackish waters of North America. Box turtles should not be considered edible, nor are they aquatic. However, the word terrapin is used by people of the British Isles to refer to any and all species of turtles. This could be the source of the word usage in southern Missouri.

To complicate the matter further, the scientific name (genus) of North American box turtles is *Terrapene*. In reality, our box turtles are closely related to semi-aquatic turtles found in rivers and wetlands, such as red-eared sliders and painted turtles.



CLIFF WHITE

Box turtles often suffer in captivity. It is best to simply say hello, take a photo and let them go where they were found.



NOPPADOL PAOTHONG

Never risk your own safety, or that of others, to help box turtles on roadways—but do try to keep watch for them.

Box turtles' diet

Both three-toed and ornate box turtles are fond of eating soft-bodied insects and earthworms, and the young of both species eat a higher percentage of these foods than anything else. However, there are some differences in the overall diets of the adults.

Adult three-toed box turtles eat more plant material and fruit than ornate box turtles. In the wild, they are known to eat strawberries, mulberries, black raspberries and blackberries. Mushrooms, tender shoots and flowers are also eaten.

Ornate box turtles living in a grassland habitat eat grasshoppers, crickets and caterpillars. Yet, they will eat wild strawberries and mulberries if given the opportunity.

Box turtle longevity

Because box turtles live on land and eat plants, people often think of them as being small tortoises. This has led to the belief that box turtles live a very long time, maybe 100 years or more. Missouri's species of box turtles actually live an average of 40 to 50 years.

A 25-year study of a population of three-toed box turtles in central Missouri by Charles and Libby Schwartz showed that the oldest specimen in a sample of over 1,700 was 59 years old. Ornate box turtles have a shorter lifespan with an average age of 32 years (from a study in Texas).

When people and box turtles meet

There are times and circumstances when box turtles come in contact with people and, more often than not, it turns out poorly for these reptiles.

Turtles in gardens. Many people who enjoy garden-



ing have experienced box turtles getting into their crops of red, ripe strawberries or tomatoes. It's easy to understand why box turtles frequently visit gardens in May and early June. There are few insects available at this time of year to eat, wild strawberries are scarce (and very small in size) and turtles are still trying to gain some weight after a long, over-winter dormancy. A garden with a nice crop of strawberries is too hard to resist for a hungry box turtle. Later in the summer, as tomatoes ripen, box turtles are attracted to the red color and the amount of moisture available in these fruits.

A simple solution to these problems is to build a low fence to keep box turtles and other wildlife out of the garden. Then, make sure the tomato plants have good, sturdy stakes or wire supports for climbing so that ripening fruit will be off the ground and out-of-reach of your neighborhood box turtles.

Relocating box turtles to new areas is not good for the reptiles. The new location may already have an established population with limited resources, and the transplanted turtles may not survive.

Also, relocated wildlife have a strong urge to head back to where they came from, which can lead to them being killed on a road.

Box turtles as vacation souvenirs. During their active season (April through September), box turtles move about their home ranges in search of food, water, courtship, an egg-laying site and/or a resting niche. While active, these animals become visible to people. Too often, folks visiting the countryside—both out-of-state visitors and residents—find and pick up a box turtle and take it home as a souvenir of their trip.

This is a problem on several levels. First, it is not legal for out-of-state visitors to capture, keep and transport wildlife across the state line without a permit. Second, box turtles are not very prolific, and their population can suffer from such a harvest of specimens. Third, box turtles do not do well in captivity, and the majority may be dead in less than a year. And fourth,

some of the people who take a box turtle from Missouri decide to let it go in their area (Michigan, Ohio, South Dakota, etc.) where no three-toed box turtles are found. Obviously, this isn't good for the hapless turtle, which will likely have a difficult time surviving. Please think twice about capturing our box turtles as souvenirs. A better idea is to take a photo and let them go where they were found.

Turtles in captivity. Box turtles are small, colorful, make no noise and eat very little compared to other, more traditional pets. But reptiles in general, and box turtles in particular, have requirements that can be difficult to meet in captivity.

Without sunlight (especially ultraviolet light), a balanced, natural diet and a preferred temperature range, box turtles do poorly in captivity. Without proper care, the result is a dead turtle, or one with a deformed shell, upper beak and claws, and excessively low body weight. The animal may live in a constant state of near-starvation.

I've met many box turtle owners who maintain that their turtles are thriving, eat the same diet every day



TOM R. JOHNSON



TOM R. JOHNSON

Above: Deformed upper mandible of long-term captive three-toed box turtle. Left: Box turtles kept in captivity and fed a poor diet develop deformed claws and shells.



TOM R. JOHNSON

Newly hatched box turtles are a little over one inch in shell length.

and have survived happily for over 20 years. All that's needed to dispel this myth about contentedly captive box turtles is to compare a wild-caught, healthy box turtle of the same age and size to a long-term captive.

To be healthy in captivity, box turtles must eat a wide variety of foods that duplicate what they consume in the wild. This means foods high in vitamins and minerals with specific amounts of plant and animal proteins, a proper temperature so their food can be digested, and the correct amount of ultraviolet light to stimulate their skin to produce Vitamin D. The Missouri Department of Conservation asks that wild animals—including box turtles—be left in the wild where their needs are met and where they belong.

Turtles and traffic. Many hundreds of box turtles are killed each year on Missouri's roads and highways. They likely consider a road to be nothing more than an open, sunny spot in their otherwise natural habitat. If they happen upon a road or highway during the time of day when they need to bask in the sun, they will stop and bask. When a vehicle drives by, they become frightened and pull into their shells, a natural response.

If they decide to move off the road and another vehicle drives by, they will again pull into their shells. This can go on for quite a while, until they either successfully cross the road or are killed.

Though motorists should always consider their own safety first, they can help by watching out for small wildlife on the road. Some folks go as far as stopping to move box turtles off the road. Although this has merit, it is important to do this in a careful and responsible manner. There have been reports of people causing accidents or being injured while trying to save a box turtle on a highway.

Box turtles have been living in the area we call Missouri for hundreds of thousands of years. There are many man-made situations that have been harmful to these small, colorful, silent and interesting creatures. Add to this the fact that natural predation (box turtle eggs are eaten by raccoons and skunks) and habitat loss further reduces their numbers, it's a wonder we see any box turtles at all. The bottom line is that Missouri's box turtles need all the help we can provide so they'll be around in the future. ▲



Adult three-toed box turtle with typical upper shell coloration of an older specimen.

Three-toed box turtle

(*Terrapene carolina triunguis*)

The name “three-toed” refers to the fact that most specimens have three toes (and claws) on each hind leg.

The three-toed box turtle is primarily a reptile of Missouri’s forests and forest-edge habitat. It is a subspecies of the eastern box turtle (*Terrapene carolina carolina*), which is found in many eastern states. It has been found nearly statewide in Missouri, except for extreme northern and northwestern counties.

The upper shell (known as the *carapace*) of the three-toed box turtle can be colorful or drab, depending on its age. Younger specimens normally have an olive-brown shell with faint yellow or orange lines radiating from the center of each scale. They also have a few dark brown markings along the top of the upper shell. Older specimens often lack these lines and can be a drab olive-brown. They typically range in upper shell length from 4 to 5 inches.



The lower shell (known as the *plastron*) of the three-toed box turtle has few or no dark markings.

The lower shell of the adult male box turtle (all species) has a dent, or round, concave area,

which allows it to mount a female during breeding and not slide off due to the roundness of her upper shell. The lower shells of females are flat with no indentation.

Skin on the head, neck and front legs of three-toeds can be quite colorful, with patches of orange, yellow, white, tan, dark brown and black. This is especially true of adult males. Males also have red to reddish-brown eyes, while females’ eyes are brown.



Adult male ornate box turtle with a red eye and a colorful shell.

Ornate Box Turtle

(*Terrapene ornata ornata*)

The name “ornate” refers to the striking light-and-dark pattern on both their upper and lower shells.

This is a common reptile of Missouri’s former tallgrass prairie region.

The upper shell is dark brown to nearly black with many yellow lines radiating from the center of each scale.

The lower shell is brown with distinct yellow lines. Upper shell length typically ranges from 4 to 5 inches, with males being slightly smaller than females.

Head, neck and limbs of ornate box turtles are grayish-brown with spots and small blotches of yellow, orange and black. The eyes of males are red, whereas females’ eyes are brown. They are found throughout Missouri, except for the southeastern corner of the state. This is primarily a species of open grasslands, but it has also been found in the savannas and open, rocky glades of the Missouri Ozarks.



Welcome to Smithville Lake

POPULATION: WAY TOO MANY TO COUNT!

by Tom Cwynar, photos by Cliff White

It's no coincidence that one of Missouri's best fishing lakes is also one of its busiest. Smithville Lake, located about 20 minutes from downtown Kansas City, receives more fishing pressure than any other large reservoir in Missouri for a good reason. Its steady, high-quality fishing for bass, crappie, walleye, catfish and white bass is a lure most anglers can't ignore.

The Conservation Department set the stage for good fishing at Smithville Lake even before the dam that made the lake could be constructed. As early as 1975, fisheries biologists built up the fish populations of Trimble Lake and numerous farm ponds that would be flooded by the 7,200-acre reservoir. By the time Smithville Lake filled in October 1979, the fish had been growing and multiplying for years and were prime for the hook.

The result was a fishing boom that most local anglers still recall as "awesome." Their memories include 30-pound five-fish limits of bass, and stringers of huge crappie.



Smithville Lake caters to many different outdoor interests. Anglers find variety here, too. Mixed bags are the norm. You never know what will hit your lure.





“Smithville was one of the best bass lakes in the state or, some say, in the country,” said Jake Allman, the Conservation Department biologist who now manages the fishery at Smithville. “And crappie fishing was so phenomenal that people flocked there in droves.”

People familiar with the lake say the fishing was never quite as good after the Flood of 1993. That year, high water killed most of the lake’s vegetation, and an

Smithville’s Wild Side

The main lake area at Smithville might best be categorized as a “civilized” outdoor recreation area. Much of the shoreline is open and well-groomed. Clay County maintains lots of public access areas for bank fishing, and there are many more places where you can park and walk to the lake. You’ll find plenty of ramps, trails, picnic tables, shelter houses, beaches, playgrounds and camping sites. The complex even has three marinas with boat slips and a couple of golf courses.

Smithville Lake has a wild side, however. When you leave the main lake and head up the Camp Branch and Little Platte River Arm, the lake narrows and becomes mostly timbered, both in the water and on shore. Skiing is not allowed above the bridges, and recreational boat traffic dwindles as the amount of obstacles in the lake increases.

Much of the upstream area has become a haven for wildlife. “We have more than 6,000 acres of public hunting lands,” Clark said. “A lot of people don’t realize we’ve got so much hunting up here. Of course, there’s a lot of people who do know about it, and they might not want others to hear about it.”

He said the Corps has 32 hunter/fishermen access points and gravel parking lots on the public hunting lands. Part of the Corps-managed land includes the Honker Cove Waterfowl Refuge. There are six hunting zones outside the refuge for waterfowl hunting, which Clark said is a strong tradition in the area.

unknown protozoan killed off the large bass. The whole food pyramid was upended. Shad hatches declined, and the fish that fed on young shad grew slowly.

Time and hard work have helped to restore the fishery. Allman said the lake has had good to excellent shad hatches since about 2000, and 2005 was one of the best fishing years in memory, with anglers stringering plenty of 11- to 13-inch crappie and bass tournament winners logging in limits that averaged almost 4 pounds a fish.

“Even more impressive are the large numbers of 14-inch bass being caught by anglers,” Allman said. “Their body condition is excellent, so they are obviously getting enough to eat. And, healthy fish produce more young, so we’re looking at good things from the bass population.”

Budding for Bass

Bass usually don’t require stocking. They’ll do just fine on their own if they have habitat and food. Lake weeds provide both. Aquatic plants give young bass places to hide, and algae growing on the plants feed insects that, in turn, feed young fish.

In one of the largest lake revegetation projects in the country, the Conservation Department has constructed 76 plant enclosures in Smithville Lake and is adding more at the rate of about 16 per year.

The aquatic plants in the enclosures include a mix of shoreline, floating leaf, emergent and submersed species, all of them native to Missouri. About 200 feet of fencing around each of the enclosures protect the plants from wallowing carp. By the time the fencing is removed, the plants will have contributed native seed stock to the lake and should be able to out-produce what the carp ruin.

Allman said he and his crew collect young bass in the fall from some of the enclosures to check on them. “The bass are better because of the vegetation,” he said. “If you take a picture of a young bass and blow it up, it would look like a 10-pound bass. They’re just little pigs.”

Insider Information

Gary Burton fishes in bass tournaments, runs bass tournaments, guides on the lake and owns Burton’s Bait & Tackle in Smithville. He’s in a good position to keep his finger on the pulse of fishing in Smithville Lake.

“Right now, Smithville is on a cycle with its crappie where it’s as good as anywhere in the Midwest,” Burton said, “and the largemouth



Corps' lands at Smithville offer 6,000 acres of hunting opportunity.



Crappie anglers find plenty of places to dangle jigs or plop bobbers in Smithville's timbered coves and upper reaches.

are on the mend. Last week was the best weigh-in we've had in a long time." He said 39 boats brought in 80 bass, each fish weighing an average of 3.26 pounds.

Burton said most anglers use some kind of plastic, such as a brush hog, worm, lizard or grub, for bass. "Those are usually your primary baits," he said, "but some guys throw spinnerbaits in the spring and fall, and buzzbaits when the topwater bite gets going later on."

Burton says his best spots change with the season, the weather and even the time of day. "I can tell you that if you're catching bass 10 feet down, you're fishing deep," he said. "They stay a little shallower here."

His prescription for crappie is to head into an arm of the lake and find the creek channel. Burton said he casts jigs up onto the channel edges. "I'm looking for some brush or trash that you can't see from above," he said. "Usually, there'll be some fish holding down there."

Black and chartreuse and purple and chartreuse are his favorite colors for crappie. Although on a bright day or when the water is clear, he'll tie on something white. He said every crappie angler has a color he or she swears by, which is why he has to keep about 50 different colors of crappie jigs hanging on the wall in his bait shop.

Burton said bait anglers often do well by tying up to a tree and watching a bobber with a minnow underneath it.

Wave Breakers

The wind that washes over the prairies pushes waves of water against the banks of Smithville Lake. The result is high cutbanks that continue to erode as the waves batter them. This is especially a problem around Smithville's main lake points, which are getting shallower as the waves continue to wash mud from the banks.

The Corps of Engineers, with technical assistance from the Conservation Department, has a million-dollar solution to bank erosion problems at Smithville. They plan to make the vertical banks on the main lake points with the biggest erosion problems slope more gently. They'll then further protect those banks with riprap walls that extend out into the water.

Smithville Corps of Engineers Operations Manager Bruce Clark said, "It's a novel project for our district. We've always built breakwaters to protect marinas or coves, but this is different. These are being done for soil erosion control and to improve fish habitat."

Funding for the first phase of the project has been approved, Clark said, and he hopes construction will start on two of the main lake points near the end of the year.

The wave breakers will be well-marked to keep boaters away, and the Corps plans to position them so that they'll serve as extensions of some of the park's trails. They'll have flat tops so people can easily sightsee or fish from the dikes.

As a bonus, the dikes will protect shorelines from the scouring that would normally prevent aquatic plants from growing. The Conservation Department will seed protected areas with vegetation to create even more fish habitat.

"It's an exciting project," Clark said. "In addition to controlling erosion and creating fish habitat, the dikes will be fishable, walkable and ADA accessible." He's optimistic that once the first two are operating successfully, funding will become available for more wave breakers.

Walleye Initiative

Smithville Lake is a primary beneficiary of the Conservation Department's Walleye Initiative. The program, which began in 1998, has been adding millions of walleye to Missouri waters that best suit this popular species. The Department stocks walleye fry into Smithville at the rate of 30 per acre every even-numbered year.

The staggered stocking schedule not only mimics natural year-class bulges in the walleye population, it also makes it easy for biologists to track whether walleyes are reproducing naturally. If they find young walleye during their fall collections in years when no walleye were stocked, the biologists know those fish came from Smithville Lake walleyes.

Jake Allman, who manages the Smithville Lake fishery, said he's not seen any evidence yet that the walleye are able to reproduce, despite the fact that the fish seem to spawn successfully.

"I think the young walleye just starve to death," Allman said. "I don't think there's enough zooplankton in the water at the time they hatch to allow them to survive. By the time we stock them in late May and early June, we do have zooplankton and even larval fish that they can feed on."

Walleyes with a slightly different life cycle may make a difference, Allman said. The walleye strain that's been stocked at Smithville originated from Merritt Reservoir in Nebraska. When the current research project ends in 2007, Allman hopes to experiment with a different strain.

"Anywhere you go in the country you're going to use a minnow or a jig for crappie," Burton said. "What you choose is more about how you like to fish than what the fish want most at the time. On average, one works just about as well as the other. You just need to be where there are hungry fish."

Even during the hot summer, the crappie are seldom deeper than 20 feet, according to Burton. He said the main lake forms a thermocline between 16 and 22 feet, and the fish tend to hang somewhere near that level, unless they are chasing shad.

"If you follow the shad schools," Burton said, "you're going to find fish—crappie, bass, everything."

Depthfinders work well for locating schools of shad, he said, unless the baitfish are really shallow. Then, you often can spot the shad near the surface of the water. That's a good time to throw a shallow-running crank-bait or a Rattletrap in their vicinity.

Brace yourself!

You never know what's going to hit.

Dean Willadsen, who lives near the lake and fishes it often, hopes for walleye to strike. He primarily relies on

Drift or troll around and over main lake points for good midday action. If you find fish, anchor and cast to them.



crankbaits. He said he'll go out in the evening and pull the lures near and over main lake points.

Willadsen grew up in northern Iowa where he fished natural lakes for walleyes. He said reservoir walleyes are a different breed. "It's not the classic, steep dropoff-type lake," he said. "I'm finding that with these stocked fish if you find the weeds, you find the walleyes."

By walleye standards, Willadsen fishes shallow, trolling the 8- to 10-foot contours of points and humps. He said he often catches fish at the corners, when the lure passes over the edges of structure, sometimes as shallow as 3 feet. After he locates fish, he stops and casts crankbaits. "You find the right spot, and there's usually more than one," he said.

His favorite trolling lure is a No. 5 Fire Tiger Rapala Shad Rap, but sometimes shad colors work better. He said the lures plow furrows in the lake bottom when trolled in 6 feet of water using 10-pound test Fireline. He likes to cast Rapala DT6s, which he said are heavier and rip through the weeds well. He said the walleyes often hit during a pause after he jerks the lure free from weeds.

Willadsen said he catches plenty of largemouth bass, white bass and, occasionally, channel cats while fishing for walleye. "If a person goes out there and trolls crankbaits over main lake points, they are going to catch something," he said. "Sometimes we'd practically give up on walleye because the whites were coming up all around, and they're too much fun to pass up."

Pals

One reason Smithville Lake has remained such a great fishing lake is the solid working relationship between the Corps of Engineers and the Conservation Department. These two entities are represented at Smithville Lake by pals Jake Allman, the Conservation Department biologist



Fishing For More Information

• www.missouriconservation.org/fish/fisht/

Visit the Conservation Department online for weekly fishing reports for Smithville Lake and other state waters.

• www.nwk.usace.army.mil/smithville/smithville_home.htm

Visit the U.S. Army Corps of Engineers online for daily information about lake levels and water temperatures, as well as maps and general information about fishing, hunting, camping, hiking and other outdoor recreation at Smithville Lake. The Smithville office for the Corps of Engineers can be reached at 816/532-0174.

• www.claycogov.com/text/parks/

Visit the Clay County Department of Parks, Recreation and Historic Sites online for information about Smithville Lake Park, as well as a complete list of user fees. The Clay County Parks Department can be reached at 816/407-3400.

who manages the fishery in the lake, and Bruce Clark, the Corps' operations manager for the lake.

Clark said Allman is the right biologist in the right place at the right time. "We've never had a biologist

who's had as much interest in the fishery," Clark said. "Jake has taken it on as a personal thing, something he really enjoys and feels the need for."

Allman said Smithville Lake is fortunate to have Clark in charge of lake operations. "He's an avid fisherman and is excellent to work with," Allman said. "He and I have known each other for years. We fish together and are friends, not just associates. It makes for a good working relationship."

It also makes for a very good fishing lake. ▲

Sticker Shock!

It costs \$17 to launch your boat at the Clay County Parks ramps at Smithville Lake. That includes the \$6 daily vehicle fee and the \$11 daily ramp fee.

Why so much? The federal bill that authorized Smithville Lake specified that local entities, such as city, county or state government, manage recreation on the reservoir. The Corps built the park system, and Clay County agreed to manage it and pay back 50 percent of construction costs.

Clay County does not have a sales tax on its citizens to support the parks. Instead, the park system and its many amenities operate and are maintained almost exclusively on user fees.

You can save bucks by fishing more. Annual permits cost \$25 for a vehicle and \$65 for boats. Daily and annual permits cost less for seniors.

If you want to fish the upper end of the lake, you can launch for free at the Corps of Engineers' ramp. However, unless you are completely familiar with the lake, don't try to motor down to the main lake from there. "It's a tough boat ride through the wood," said Corps of Engineers Operations Manager Bruce Clark. "Unless you know your way down, you're not going to make it."



Partnering for Wildlife

by B. Keith Wollard

Landowners gain assistance and equipment through the Wright County Open Land Habitat Enhancement Project.

Each year, resource agencies receive an increasing number of requests from landowners for assistance with wildlife habitat practices. Many of these requests come from folks who have purchased land for non-agricultural uses and need help obtaining equipment and technical information to carry out their wildlife enhancement projects.

Wildlife professionals have long realized that providing landowners with access to farming implements could greatly benefit wildlife populations. However, there have been obstacles. These have included funding for the purchase, storage, operation and maintenance of equipment, as well as scheduling, record keeping, and other administrative duties.

In recognition of the growing need for assistance, several Wright County agencies pooled resources and ideas to see what could be accomplished. From this, a unique partnership was formed: the Wright County Open Land Habitat Enhancement Project. Partners in the project include the Wright County Soil and Water Conservation District (SWCD), Missouri Department of Conservation (MDC), Natural Resources Conservation Service (NRCS), National Wild Turkey Federation (NWTf), Missouri Conservation Heritage Foundation (MCHF), and National Fish and Wildlife Foundation (NFWF).



NOPPADOL PAOTHONG

Landowners have considerable influence on troubled wildlife populations. Those who purchase land for non-agricultural uses may need equipment for habitat projects.



Above: Wildlife monitoring surveys show an increased number of coveys due to management practices. Right: Herbicides may be helpful in clearing invasive plants such as this sericea lespedeza.

When partners pool assets

The Wright County Open Land Habitat Enhancement Project was designed to make equipment and knowledgeable personnel available to private landowners who have a strong interest in wildlife management. These landowners have a significant impact on depressed and dwindling wildlife populations especially.

The project focuses on, but is not limited to, developing early succession habitat, which is a vital, yet often missing requirement for brood rearing and nesting of bobwhite quail, wild turkey and other small game. The lack of this type of cover is a major contributing factor in the sharp decline of bobwhite quail and a host of other wildlife species.

By combining all partners' resources, a "one-stop shop" program was developed. To date, the partnership has purchased a four-wheel drive tractor with front-end loader, a 4x4 ATV, a brush hog, spraying equipment, broadcast seeders, offset and three-point discs, and chemical and planting materials, all to assist landowners in their habitat enhancement projects. By tapping into all partners' assets, the group has been able to provide wildlife habitat work with minimal cost and labor passed on to the landowner.

The plan goes public

As a kick-off event for the project, a Demonstration Field Day was held at the Steven Whittaker property just outside of Hartville. Attendees learned about several different early succession habitat practices, including:



- Prescribed burning, along with proper techniques of mowing and disking firebreaks.
 - Light strip disking to improve brood rearing habitat for quail and turkey.
 - Herbicide applications to undesirable vegetation.
 - Tree and shrub plantings for food and covey head-quarter areas.
 - Seeding of lespedeza and other legumes.
 - Planting annual grain and green browse food plots.
 - Establishment of wildlife-friendly warm-season grasses and native forbs for grassland plant diversity.
- The success of the Habitat Enhancement Project is evident in the strong landowner interest. Several people are on the waiting list to enter the program.



CLIFF WHITE

Wright County wildlife wins

To determine the program's impact on wildlife populations, several wildlife monitoring surveys are being conducted. Fixed-point quail whistling counts have been conducted on farms both before and after habitat practices have been carried out. Though it's still fairly early in the monitoring process (only two years in some cases), there have been positive results.

Central Wright County. A case in point is a 50-acre farm located in Central Wright County. Whistling counts and landowner surveys showed that only one covey of quail was found on the property before extensive habitat practices were carried out. The owner of the property wanted to see what could be done to increase

the number of quail and rabbits on his farm.

The owner had few farming implements and was not sure how to help the wildlife on his farm. After hearing of the project from a neighbor, he decided to enroll in the Habitat Enhancement Program. Though he could not devote his entire acreage to extensive wildlife habitat work, the owner hoped that something could be done with the several small areas he was not actively farming.

Thick fescue, cedar and locust trees dominated the selected areas. Therefore, the recommended practices for the land included eradication of fescue by chemical treatment, prescribed burning, establishment of warm season grass and native forb mixtures, strip disking, legume seedings and annual grain food plots. Pasture



NOPADOL PAOTHONG

management was also modified to favor nesting success of quail, turkey and rabbits.

In the short time since the habitat work began, counts and surveys show that the owner has gone from one covey of quail to four coveys on his 50-acre farm. He was amazed at the quick results and actually saw a covey of quail using one of the burned areas the second day after the prescribed fire. He had never before seen quail in this area. He also reports seeing a considerable increase in the number of rabbits, songbirds and other wildlife species.

Results such as these show that the key to reversing downward wildlife population trends lies in carrying out favorable land management practices that provide essential habitat. They also show that hundreds of acres

of land are not needed to positively affect wildlife.

Northern Wright County. Jim Shaddy, whose 160-acre family farm is located in Northern Wright County, remembers a time when he saw coveys of bobwhite quail along most every fencerow on his property.

However, as farming practices gradually changed over the years, much of the land was converted from diverse native grass pastures to cool-season fescue. Though necessary for the farm's income, these land changes were unfavorable for quail and other wildlife. Jim began to see a dramatic decline in the bobwhite quail population, and now he rarely sees or hears quail on the farm.

Jim had wanted to make wildlife-friendly changes on the property for some time. Because he did not have



Left: The Wright County Soil and Water District provides equipment such as this tractor for disking to improve habitat and firebreaks. **Above:** Warm-season grasses and native forbs are important components for grassland plant diversity.

all the necessary equipment, time or technical knowledge to make these changes, he was excited to hear about the Habitat Enhancement Program and how equipment and advice were being made available through the Wright County Soil

and Water District and the Missouri Department of Conservation.

Jim has just begun work with the Enhancement Project and is carrying out habitat and land management practices that will favor wildlife and help return the land to what he once remembered.

As word has spread of the wildlife work being done in Wright County, the Open Land Enhancement group has been approached by several government agencies and private citizens outside Wright County who are interested in the wildlife program. The project partners are inspired by the positive results and overwhelming interest, and they hope that similar partnering projects to assist landowners can be carried out in other areas across the state. ▲

Conservation Contractors

Installing beneficial wildlife habitat management practices on your property can be a rewarding experience. Landowners have many options when considering how to complete the planned improvements. Missouri is fortunate to have partnerships with various conservation organizations to help landowners with technical and financial assistance.

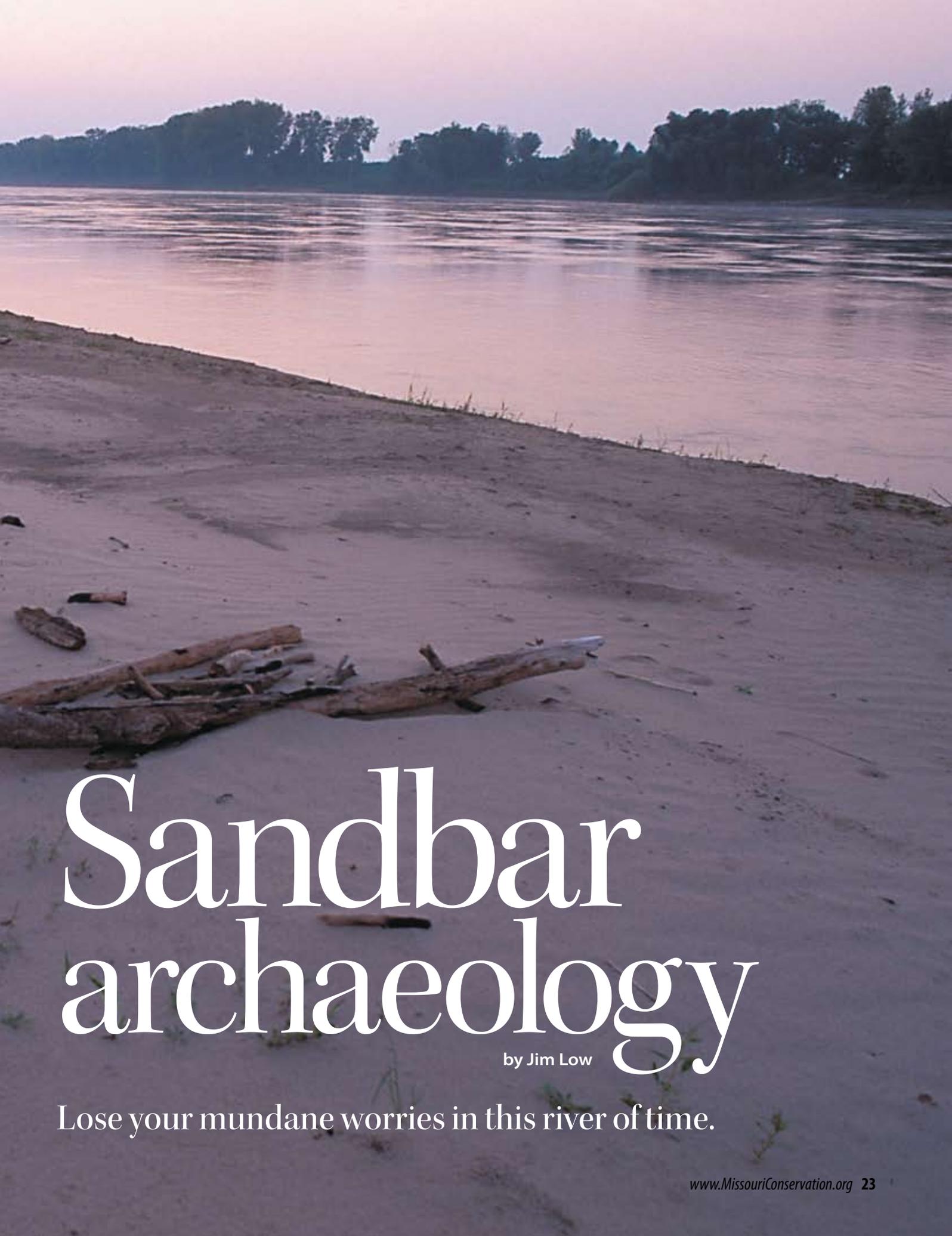
When a plan has been developed for the property and the timing is right, most landowners must decide whether to do the work themselves or hire someone to install the project for them. The Department of Conservation has partnered with the Missouri Agriculture Industries Council (MO-AG) to conduct a series of workshops aimed at increasing the knowledge, skills and abilities of conservation contractors across the state.

More than 350 contractors participated in the first series of training workshops. The training focused on establishing native grasses, forbs and legumes, as well as practices such as woody cover control, edge feathering and light disking. These practices set back succession and provide habitat beneficial for bobwhite quail, grassland songbirds and early successional wildlife species.

To locate a conservation contractor in your area, contact your local Department of Conservation office or USDA Service Center. Regional phone numbers for the Department can be found on page 1. You may also go to the Department's Web page at www.missouriconservation.org and type "conservation contractors" in the search box.



JIM RATHERT



Sandbar archaeology

by Jim Low

Lose your mundane worries in this river of time.

A hunter wanders absentmindedly across a vast, sandy expanse bordering the Missouri River, scanning a sparse landscape. He neither hurries nor lingers. The ducks he sought all have flown on south, so he kills time beachcombing. Time slips past him unnoticed.

A few yards ahead, the tips of what appears to be a broken tree branch poke from the sand. The hunter's restless glance drifts across the weathered points several times as he approaches, then catches on one. The texture and shape don't look like wood.

He changes course, bends and grasps the object. It is dense and cool to the touch. He lifts, and time slows to a crawl as a 2-foot section of elk antler emerges from the damp sand.

His eyes slide along the smooth, age-darkened surface of once-vital tissue, and in that instant, the flow of time changes direction. It begins to ebb, drawing the hunter with it. He experiences a slight shock, as if caught in a time warp that pulls him back across thousands of years.

How long has this bit of living history lain here, waiting to be discovered? When did the animal live? Where and how did it die? How long was the antler entombed in mud before the river's shifting current exhumed it? Such are the questions and reveries of a sandbar archaeologist.

The Missouri River probably isn't high on most people's lists of places to hunt for fossils, arrowheads and other relics of the recent to ancient past. When you think about it, though, it's perfectly logical.

Each year, the river and hundreds of tributaries between here and the Rocky Mountains carve into alluvial deposits laid down thousands, tens of thousands or even hundreds of thousands of years ago. Among

The Who's Who and What's What of Archaeology

Scientists who study the buried remains of humans and their culture are called archaeologists. Those who study the remains of animals are paleontologists. A fossil is an object whose original material has been replaced by mineral deposits. Any partially fossilized object under 10,000 years old is considered a "subfossil."

the millions of tons of sand, gravel and mud are thousands of more interesting things, such as fossilized bones, Indian artifacts and the cargo of wrecked riverboats.

Many of those items make temporary stops in the Show-Me State on their way to the Gulf of Mexico. Removed from their original context, they have little



JIM LOW

value to professional archaeologists. But for a small cadre of confirmed Missouri River beachcombers, finding such items is a thrill on par with bagging a trophy whitetail or discovering a previously unknown painting by Leonardo da Vinci.

The quest for that moment of discovery has kept Kenny Bassett coming back to the river for 25 years. A confirmed beachcombing addict, the Columbia resident heads for the river whenever the water level falls low



enough to expose sandbars and rock wing dikes. He is there on scorching summer days and in the dead of winter, sometimes rowing his johnboat around ice floes to get to prime collecting sites. For him, it's all about the moment of discovery, and he likens it to the thrill of other kinds of hunting.

“You go into a state of heightened concentration where everything else is eliminated—your problems at home, the mosquitoes around your head. All of that is

Sandy river water polishes arrowheads before delivering them to sandbars or rock wing dikes.

inconsequential when you have that buck in your sights or you are seeing something you have been seeking so long and hard. The thrill is indescribable.”

Some of Bassett's thrills have been understandable if not describable. There was the day in 1995 when he discovered the skull of what he assumed was an ox. The



PHOTOS BY JIM LOW

Sandbar Archaeology and the Law

Picking up artifacts isn't always legal. In some cases, state or federal laws protect archaeological sites' cultural and scientific value. However, this value is greatly diminished after erosion removes an object from its original location. Arrowheads and bison skulls found on sandbars are still of interest to those who study such things, but their scientific value is minimal.

Brant Vollman, an archaeologist with the Missouri Department of Natural Resources, said that while it may be legal to collect artifacts on river sandbars, collectors must be careful not to wander onto private land. The Missouri River is public property, but public ownership extends only as high as the ordinary low-water mark on banks.

Any land above the point where trees and other permanent vegetation grow is part of the shore. You need permission to go there unless it happens to be a conservation area or other public land. While permission is not needed to go on public land, artifacts found on state-owned land are considered property of the state. Many permanent islands also are private property.

Vollman also noted that Missouri law protects shipwrecks. Furthermore, it is illegal to knowingly disturb human remains, so known burial sites are off-limits.

Vollman and University of Missouri archaeologist Lee Lyman encourage people to report significant finds and bring river artifacts of all kinds to them for examination. Often they can tell the owners what animals or people they came from and approximately how old they are.

You can reach Vollman at brant.vollman@dnr.mo.gov or Lyman at LymanR@missouri.edu.

Did the Corps of Discovery use this meat hook? Could the mercury bottle have drifted from a wrecked ship?

horns measured 31 inches from tip to tip, and it looked old—really old.

Bassett took the monstrous skull to Professor Lee Lyman, chairman of the University of Missouri-Columbia Anthropology Department. Lyman identified the skull as that of a female *Bison antiquus*, a much larger relative of the modern American bison. Although big for a female, it was considerably smaller than the males of its species. This species went extinct during the last ice age.

Bassett was transported. He also was consumed with curiosity about how old his specimen was, so he paid \$600 to have it carbon dated. The test showed his beast lived and died 13,000 to 14,000 years ago.

Such finds are not as uncommon as you might think. Mary Ball, of O'Fallon, found an even larger bison skull while arrowhead hunting on a sandbar near St. Louis in 2003.

The bison skull is Bassett's biggest find to date, but not his favorite. That distinction belongs to what appears to be a sliver of fossilized bone that has been fashioned into a personal ornament of some sort. Along its jet-black length is a bas-relief pattern of circles and wavy curves. The precision of the design is amazing. A top of the artifact, partially eroded by time, is what

might once have been a bird figure.

Neither Lyman nor anyone else Bassett has consulted can explain the artifact's function or shed light on its age. What's certain is the time and creative energy that some early artist poured into its creation. It fires Bassett's imagination to think of the artist who invested precious time creating an object of lasting beauty.

The range of artifacts that turns up on sandbars defies description. One day, you might find a clay tobacco pipe. The next, petrified wood or a beautifully fluted Clovis spear point. Bassett has a heavy, 5-inch flint blade that Lyman identified as a hoe blade.

One of Bassett's beach-combing friends found a fossilized bear skull in the Kansas City area, and John Marston, of Easley, brought a massive section of bone to Lyman for identification. He said it belonged to a mastodon or a woolly mammoth. Again, this had to come from about 10,000 years ago, during the last ice age.

Lyman estimated the age of the elk antler mentioned earlier at 6,000 to 8,000 years, based on its shape. The flattened forks and multiple points are between those of modern elk and the Eurasian red deer from which North American elk descended.

Not all the objects that turn up on sandbars are of prehistoric origin. Hartsburg resident Darrell Bennett found a small ceramic bottle bearing the inscription "Mercury." This might have come from a cache of medical supplies in the hold of a 19th-century riverboat. Dozens of

wrecked cargo ships are buried beneath crop fields where the river once flowed. Bennett has found massive padlocks, apothecary bottles, marble doorknobs and other everyday items that document bygone days, along with a number of bison horns.

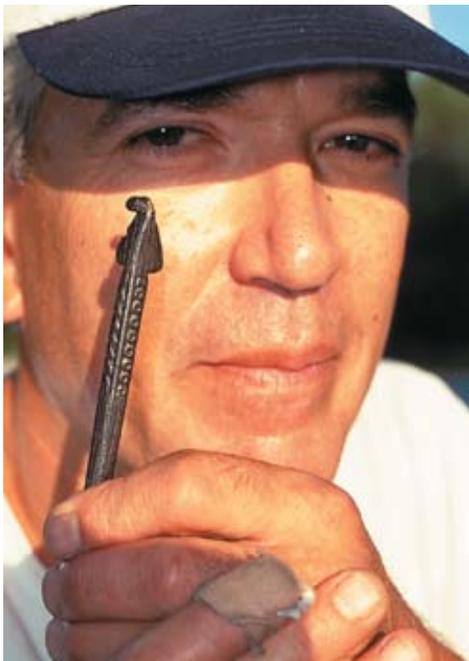
You won't find an arrowhead every time you visit the river, but the occasional find, along with the river's incomparable scenery and opportunities to see eagles and other wildlife, make visits well worthwhile.

"Thousand-year-old objects aren't supposed to be easy to find," said Bassett, "but with a little bit of faith and enough time given to the task, you know that moment of discovery is going to appear again. On the Missouri River you know exciting things are out there. You have to keep going, because Old Man River is going to bury them again, maybe forever." ▲

Sandbar How-to

Experienced sandbar archaeologists offer the following tips:

- Go when the water is low, exposing lots of river bottom.
- Visit the river after big floods, especially in winter, when ice floes plow up sandbars and river banks.
- Check the upstream faces of wing dikes and other spots where flowing water slows down and drops objects.
- Look around beached stumps and other large objects.
- Look for artifacts when the hunting or fishing is slow or to stretch your legs during float trips.



The Big Muddy has rewarded Kenny Bassett generously for countless hours spent combing sandbars and banks. His finds include the skull plate of an ice-age *Bison antiquus* and an Indian body ornament carved from fossilized bone.



Spring turkey harvest tops 54,000

Three years of below-average turkey reproduction and some of the worst hunting conditions possible conspired against Missouri turkey hunters this year. Yet they managed to bag an amazing 54,712 birds, proving that a bad year for turkey hunting in Missouri is better than the best year in most states.

Youth hunters kicked off the season by killing 3,694 birds April 8 and 9. The regular season April 24 through May 14 saw a harvest of 51,018. Each of the figures represents a 5 percent decrease from last year.

How can Missouri hunters continue to kill so many turkeys when reproduction is down, and rain, wind and cold hamper their efforts?

"What you have to remember is that Missouri starts every year with a very large flock," says resource scientist Jeff Beringer. "We estimate a total statewide turkey population of 600,000 birds. About 60 percent are hens, and if each of those hens produces 1.2 poults (young turkeys). We can have a poor hatch and still make a lot of birds."

Although short of the 60,000-bird record set in 2004, this year's harvest still is the seventh-largest in the 47-year history of Missouri's modern turkey season and the eighth in a row over 50,000.

Top 2006 harvest counties were Texas, where hunters bagged 946 turkeys, Franklin with 902 and Macon with 873. Regional totals were: Northeast, 8,436; Central, 7,577; Northwest, 7,308; Southwest, 6,504; Kansas City, 6,336; Ozark, 6,120; Southeast, 4,771; and St. Louis, 3,966 (see page 1 for region boundaries).

Permits issued for the 2006 spring turkey season included 91,090 resident permits, 44,511 resident landowner permits, 13,236 youth permits, 9,661 nonresident permits and 463 nonresident landowner permits.

Blending agriculture and quail management

Landowners who want quail but need to make a living at farming will want to attend Integrating Bobwhite Quail Management with Agriculture, a half-day field day sponsored by the Missouri Soybean Association, the Conservation Department and the University of Missouri Extension.

The event will run from 8 a.m. until noon Aug. 26 at the University of Missouri Bradford Research and Extension Center, off Highway 63, 11 miles south of Columbia. It will consist of three one-hour tours. One will cover management techniques for native grasses and forbs, establishing covey headquarters, and food plots and early successional plant management. Another will cover edge feathering, field border management, CP33 practices, crop yield differences and diversion channel management. The remaining tour will feature invasive plant management, grassland bird habitats on farms and management practices conducted by neighboring landowners.

The field day is free and open to the public without reservations. For more information, contact Tim Reinbott, ReinbottT@missouri.edu, 573/884-7945, or Bob Pierce, PierceR@missouri.edu, 573/882-4337.



FISH MAY BE SHORTER THAN THEY APPEAR

If you have a Conservation Department fish ruler stuck to your boat, check its color before measuring another fish. The ruler itself might not measure up. White, 18-inch plastic rulers distributed as many as 10 years ago have not stood the test of time. Heat and sunlight have caused them to shrink. Anglers who use the old rulers to measure fish could be fooled into thinking their fish

meet length limits when they really are too short. Newer, yellow rulers from the Department are made of shrink-proof material and have proven more reliable. To be safe, check the accuracy of any stick-on ruler you use while fishing. If you need a new one, stop by a Department office for a replacement or contact the fisheries information specialist at 573/522-4115, ext. 3593.

Missouri Department of Conservation asks you report Zebra Mussel sightings to 573/882-9880

Help slow the spread of the Zebra Mussel

- X Drain all water from bait buckets and live wells
- X Remove weeds and plants from boat and trailer
- X Flush lower units and cooling systems immediately after use
- X Dry boats completely between launches

Zebra Mussel up to 2 inches



Burning for bobwhites: Summer fire helps control woody invasion

Nature is not static, and neither is quail habitat. Left unchecked, woody sprouts quickly engulf field edges where trees have been cut to benefit bobwhites. One way to slow this process is with prescribed burns in July and August.

The intensity of summer burns often kills woody plants outright. On the downside, summer burning also is hard on native warm-season grasses that may be present, and it stimulates exotic cool-season grasses. However, in areas where open habitat is desired and trees and shrubs are taking over, there is little to lose. Once woody plants are gone, you can focus on shifting grass composition to favor quail and other ground-nesting wildlife.

For guidance about summer burns, consult the *Forest Land Management Guide: Use of Prescribed Fire*. This publication is available online at www.mdc.mo.gov/documents/forest/fire/presc_fire.pdf.

QU to fund quail coordinator's job

Quail Unlimited (QU) announced in May that it will fund the Northern Bobwhite Conservation Initiative (NBCI) coordinator's job through 2009, enabling the program's work to continue uninterrupted. NBCI is a habitat-based national bobwhite quail recovery effort with the goal of restoring bobwhite numbers to 1980 levels throughout their range. Partners in the effort include QU, the Southeastern Association of Fish and Wildlife Agencies, the Conservation Department and other states' conservation agencies. In the past two years alone, NBCI Coordinator Don McKenzie has helped channel more than \$2 million into habitat work on more than 185,000 acres. "Quail Unlimited is proud to be a partner in meeting the financial demands necessary to help ensure the long-term success and viability of the NBCI," said QU President Rocky Evans. "Our whole organization, including our staff, chapters and members, strongly endorse and support the NBCI goals." QU's web site (www.qu.org) has more information about NBCI.

BOBWHITE BULLETS

- ▲ Quail Unlimited will hold its national conference in Kansas City July 26-30. For more information, visit www.qu.org or call 803/637-5731.
- ▲ The newly formed KC Covey Chapter of Quail Forever plans habitat work on both sides of the Missouri/Kansas line. More information is available from Jason Rasmussen, 816/304-8982, jasmussen16@comcast.net, or online at www.kcqu.org.
- ▲ Quail Unlimited recently honored its West-Central Missouri Chapter for outstanding action under the Northern Bobwhite Conservation Initiative. Also recognized were Natural Resources Conservation Service (NRCS) biologist Pat Graham and NRCS District Conservationist Mike Andrews.
- ▲ Quail hunters and conservationists in Knox County have formed the Whistling Bobs Quail Unlimited Chapter. For more information, contact Bill Wiseman 660/733-5530, bwiseman@marktwain.net.
- ▲ The Grand River Quail Unlimited recently became the first chapter in the nation to form an officially recognized Burn Team to conduct contracted prescribed burns. For more information, call 660/745-3140.
- ▲ Lake of the Ozarks area residents have formed the Camden, Miller and Morgan County Quail Forever Chapter, the sixth in Missouri since Quail Forever came into existence in August 2005. For more information, contact Donnie Cauthron, 417/722-4722, lordmaul002002@yahoo.com.



Bobwhite quail



Royal catchfly

Habitat Hint: Invite Hummers with Hot-Red Blossoms

If you're looking for a plant with a red blossom hot enough to match July temperatures, take a look at royal catchfly (*Silene regia*). It has strike-up-the-band red flowers that bloom atop stiff stems up to 4 feet tall.

Royal catchfly's blossoms attract hummingbirds from June to August. As an added bonus, it thrives in dry spots.

While considered rare in some areas, it flourishes in home gardens. Keep in mind, however, that it has a taproot that rots if soil has too much moisture, so be stingy with water.

A red-hot native plant that likes moist areas is cardinal flower (*Lobelia cardinalis*). Found in nature along stream banks and gravel bars, it's a great choice to add spice to a rain garden and should be watered if weather turns dry.

Cardinal flower's showy blossoms come into full glory in August. Hummingbirds seek out its brilliant red blossoms, as does the cloudless sulphur butterfly.

For more information about using these and other native plants to attract wildlife, write to Grow Native!, P.O. Box 180, Jefferson City, MO 65102-0180, or e-mail grownative@mda.mo.gov and ask for *Natives for Your Home Landscape*.—Barbara Fairchild



Cardinal flower

MU offers woodland workshops

Many Missourians own land for recreation as much as for income, but it is not necessary to choose one or the other. A new short course offered by the University of Missouri Extension, in cooperation with the Missouri Department of Conservation, is designed to help landowners maximize wildlife values while enhancing the health and economic value of their forests.

The Missouri Woodland Steward course consists of five workshops led by resource professionals. Four are indoor sessions. The fifth is a field trip. Participants get an introduction to the basic principles and practices of forest and wildlife management. The object is not to turn forest owners into foresters, but to give them the knowledge they need to assess their options and the vocabulary necessary to work confidently with forestry professionals to achieve their goals.

The ideal is for everyone who completes the course to develop a management plan for their land. Fewer than one in 10 Missouri forest owners has such a plan. That is not good for the future of private forests, which make up 83 percent of the state's total forest acreage.

The University is helping local teams organize Woodland Steward courses in all regions of the state. For more information, contact your county MU Extension office or Hank Stelzer at StelzerH@missouri.edu or 573/882-4444.



Dickcissel

GOVERNOR PROCLAIMS BIRD CONSERVATION DAY

Gov. Matt Blunt, front row at right, celebrated bird conservation in Missouri at a proclamation signing ceremony May 10 at the State Capitol. Present were leaders of the Missouri Bird Conservation Initiative (MoBCI), including representatives from the Audubon Society of Missouri, Conservation Federation of Missouri, Missouri Departments of Conservation, Natural Resources and Transportation, Ducks Unlimited, Missouri Falconers Association, Missouri Prairie Foundation, National Wild Turkey Federation, Ruffed Grouse Society, St. Louis Audubon Society and U.S. Fish and Wildlife Service. The proclamation noted that MoBCI is an organization of hunters, bird watchers, conservation professionals and others engaged in bird conservation through partnership action. It further noted that bird watchers, bird hunters, and other bird enthusiasts in Missouri together annually spend \$621.4 million. This generates \$1.2 billion in total business activity, supports 11,080 jobs, creates \$29.3 million in sales tax revenue, and generates \$10.9 million in state income tax.





Missouri youth wins national Junior Duck Stamp art contest

Rebekah Nastav of Amoret, Mo., is the winner of the 2006-2007 Federal Junior Duck Stamp Contest sponsored by the U.S. Fish and Wildlife Service.

Nastav, 15, won the contest with an acrylic painting of a redhead duck. Her artwork, titled "Morning Swim," appears on the federal stamp, which went on sale June 1. She received a \$5,000 prize and an expense-paid trip to Washington, D.C., where she participated in the first-day-of-sale ceremony.



Becoming an Outdoors-Woman events

YMCA of the Ozarks Trout Lodge and Camp Lakewood in Potosi will hold a "Becoming an Outdoors-Woman" (BOW) program Aug. 25 through 27 and a Beyond BOW Harvest Moon Backpacking Trip Oct. 6 through 8.



BOW is a popular international program for women 18 and older who are interested in learning outdoor skills. Courses offered at the August event include fishing,

canoeing, rifle and shotgun shooting, deer and turkey hunting, kayaking, Dutch-oven cooking, wilderness survival, wildflower identification, orienteering, climbing and horsemanship. Completion of a BOW event is not required for participation in the backpacking trip.

To receive registration forms for either event, contact Mariah Hughes, 573/438-2154, ext. 238, mhughes@ymcastlouis.org, or Ro Bonny, 573/438-2154, ext. 114, rbonney@ymcastlouis.org, or visit www.ymcaoftheozarks.org to download a registration form.

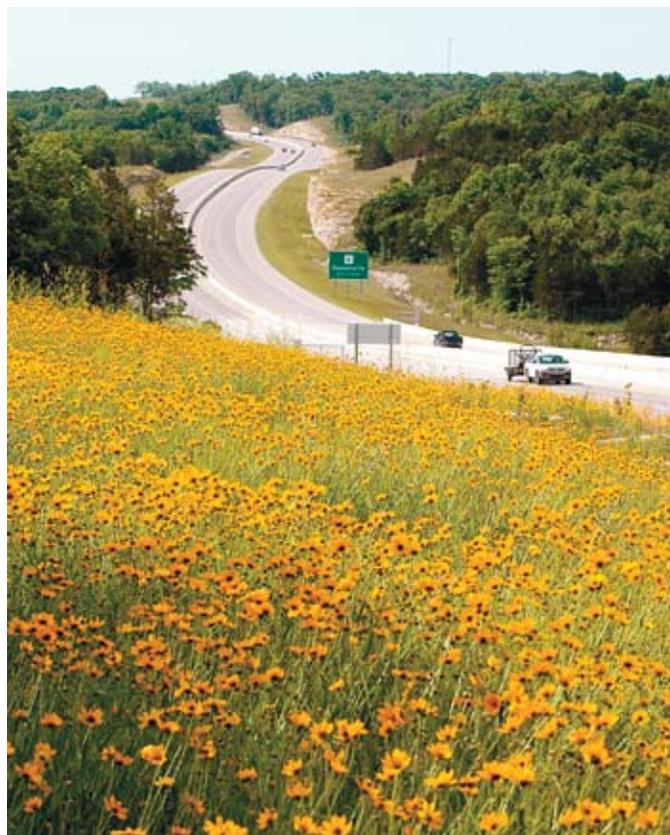
Highway wildflower conversions

If Missouri highways seem to be getting prettier, it might not be your imagination. Cooperation between the Conservation and Transportation departments is turning monotonous, high-maintenance highway rights-of-way into colorful landscapes.

The agencies kicked off the Roadside Conversion Project in 2003, preparing seedbeds on nine stretches of highway. Planting began the next year, using a mixture of seeds from more than 50 native wildflowers and grasses. The earliest roadside conversion projects now are well-established and producing wildflower displays that change with the seasons. Bright-yellow coreopsis and black-eyed Susan come on in May and June, followed by gray-headed coneflower, purple coneflower, wild bergamot, partridge pea and pitcher sage in the summer and New England aster in September.

Wildflowers now festoon 500 acres along 80 miles of highway. Areas where conversion projects already are in place are I-35 from Bethany to the Iowa State Line, U.S. Highway 71 from the Vernon County line to Lamar, U.S. Highway 54 from the Highway H exit south of Fulton to the Auxvasse exit north of Kingdom City, I-55 from the Benton exit to the Marston exit north and south of Sikeston, I-270 between routes 30 and 21, The Junction of I-70 and I-370 in St. Charles County and the I-255/I-55 interchange in St. Louis County.

The wildflower plantings save money on mowing and other maintenance and keep down the growth of tall weeds that can create safety problems. For more information about the Roadside Conversion Program and how your community can get involved, contact Steve Clubine at Steve.Clubine@mdc.mo.gov or 660/885-8179, ext. 241, or Stacy Armstrong at Stacy.Armstrong@modot.mo.gov, 573/751-8647.



Outdoor Calendar

Hunting	open	close
Coyotes	5/15/06	3/31/07
Crow	11/1/06	3/3/07
Deer		
Archery	9/15/06	11/10/06
	11/22/06	1/15/07
Urban Counties (antlerless only)	10/6/06	10/9/06
Youth	10/28/06	10/29/06
November	11/11/06	11/21/06
Muzzleloader	11/24/06	12/3/06
Antlerless	12/9/06	12/17/06
Groundhog	5/15/06	12/15/06
Rabbits	10/1/06	2/15/07
Squirrels	5/27/06	2/15/07
Turkey, Archery	9/15/06	11/10/06
	11/22/06	1/15/07
Turkey Fall Firearms	10/1/06	10/31/06

Fishing

Black Bass (certain Ozark streams, see the Wildlife Code)	5/27/06	2/28/07
impoundments and other streams year round		
Bullfrog	sunset	midnight
	6/30/06	10/31/06
Experimental Catfish Hand-fishing Season (on designated portions of Fabius, Mississippi and St. Francis rivers)	6/1/06	7/15/06
Trout Parks	3/1/06	10/31/06

For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* and the current summaries of "Missouri Hunting and Trapping Regulations" and "Missouri Fishing Regulations," the "Fall Deer and Turkey Hunting Regulations and Information," the "Waterfowl Hunting Digest" and the "Migratory Bird Hunting Digest." This information is on our Web site at www.MissouriConservation.org/regs/ and at permit vendors.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to www.wildlife.license.com/mo/.



To learn about bobwhite quail management and Missouri's quail recovery efforts, check out www.missouriconservation.org
Keyword: quail

Arbor Excellence Awards

The Conservation Department and the Missouri Community Forestry Council have recognized five communities, organizations and individuals for substantially improving their communities' trees. Arbor Awards of Excellence went to the City of Gladstone, the City of St. Peters, TreeLiberty of Liberty, and Polly Jaben of Plattsburg. The City of Hannibal received a Citation of Merit. The awards recognize groups and individuals whose care of trees contributed significantly to their towns or areas and was part of a sustainable long-term effort. Nomination applications are accepted from October through November. For more information about the Missouri Arbor Award of Excellence or to download a nomination form, go online at www.missouriconservation.org/forest/urban/TRIM/#arbor, or contact Justine Gartner, 573/522-4115, ext. 3116, or by e-mail at Justine.Gartner@mdc.mo.gov.



From left: Polly Jaben, Lisa Allen and Martha Clark

AGENT NOTEBOOK

Etiquette is defined in the dictionary

as "correct behavior." Need to know how to act at a dinner party? There's a book on that. How do you greet royalty? There is a book on that, too. How should you behave while floating one of Missouri's many pristine Ozark streams? I think it is about time someone writes a book on that subject.

Missouri's conservation agents work our float streams through the summer, enforcing fishing regulations, littering laws and other Missouri statutes. Over the last few years, agents have noticed a significant increase in problems that don't fall into any legal category but are violations of "etiquette." Many of Missouri's regular floaters and canoe rental operators have noticed and complained about these same problems. Complaints include loud music, cursing, drunken floaters, ATVs on gravel bars, and water cannons spraying everyone nearby, to name a few. Unfortunately, these are everyday events on some of Missouri's float streams.

Studies are underway to try to control what some call "obnoxious floaters." I don't think we need any more laws or regulations. I think the best solution is for all floaters to be considerate of other people. Obnoxious behavior is out of place, whether it occurs on a public street, at a dinner party or on a beautiful Missouri stream.

Our float streams draw a large and varied crowd each summer. Those floaters planning for a weekend of partying and revelry should realize there are families with children on the river, as well as people hoping for a little peace and solitude in one of Missouri's most beautiful natural settings. You can have fun floating, but don't spoil the fun of others. —*Michael Lancaster, Protection District Supervisor, Wayne County*

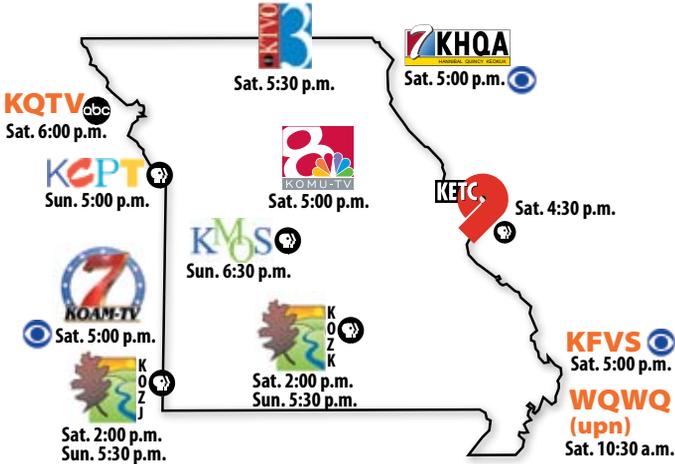


Meet Our Contributors



Program Schedule

Television the way Nature intended!



For additional show information and video clips, be sure to check our Web site at <http://mdc4.mdc.mo.gov/tv/>.

SHOW SCHEDULE

July 1 & 2—LEWIS AND CLARK

Take a journey on the Missouri River with Lewis and Clark.

July 8 & 9—MISSOURI'S TALLGRASS PRAIRIE

From its rich past to a future promise, the tallgrass tale is a truly American experience.

July 15 & 16—STAMP OF CHARACTER

Join us as we turn back the hands of time... to an era when Missouri was in the midst of a logging boom.

July 22 & 23—SPIRIT OF CONSERVATION

Explore the history of the conservation movement in Missouri.

July 29 & 30—BACK TO THE WILD

Just 60 years after they nearly vanished, Missouri welcomes deer, turkey and Canada geese Back to the Wild.

Aug 5 & 6—UNDERWATER PHOTOGRAPHY

Dive beneath the surface with underwater photographer Bill Roston.

OTHER OUTLETS (Previously aired episodes are also shown on the following)

Blue Springs CTV7
Branson Vacation Channel
Brentwood BTW-10 Brentwood City Television
Columbia CAT3
Columbia Columbia Channel
Hillsboro JCTV
Independence City 7 Cable
Joplin KGCS-TV57
Kearney Unite Cable
Maryland Heights MHTV-10
Parkville GATV
Perryville PVTV

Platte City Unite Cable
Poplar Bluff Poplar Bluff City Cable
Ste. Genevieve Ste. Genevieve Cable
St. Charles SC20 City Cable
St. Louis Charter Cable
St. Louis Cooperating Schools Cable
St. Louis City TV 10
St. Peters St. Peters Cable
Springfield -14/MediaCom
Sullivan Fidelity Cable
West Plains OCTV



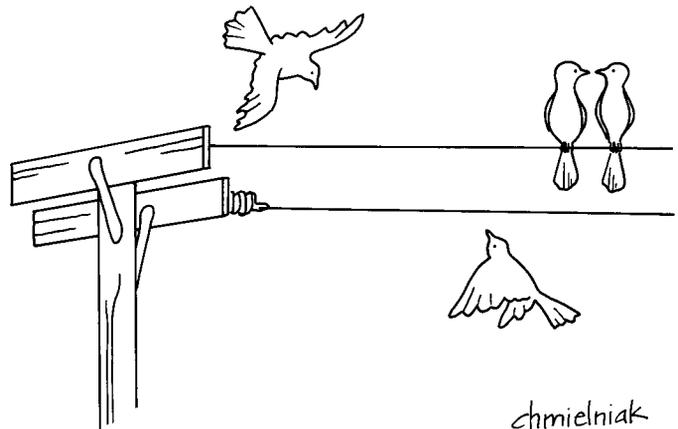
Tom Cwynar is a writer/editor for the *Conservationist* who often writes about fishing Missouri waters. Tom said he has a variety of interests, but that he generally likes the outdoors more than the indoors and activity more than passivity. He is currently trying to teach his new little white boat to catch fish.

Tom R. Johnson was the Conservation Department's state herpetologist between 1977 and 2000. He wrote and illustrated the *The Amphibians and Reptiles of Missouri*, which was published by the Department in 1987 and revised in 2000.

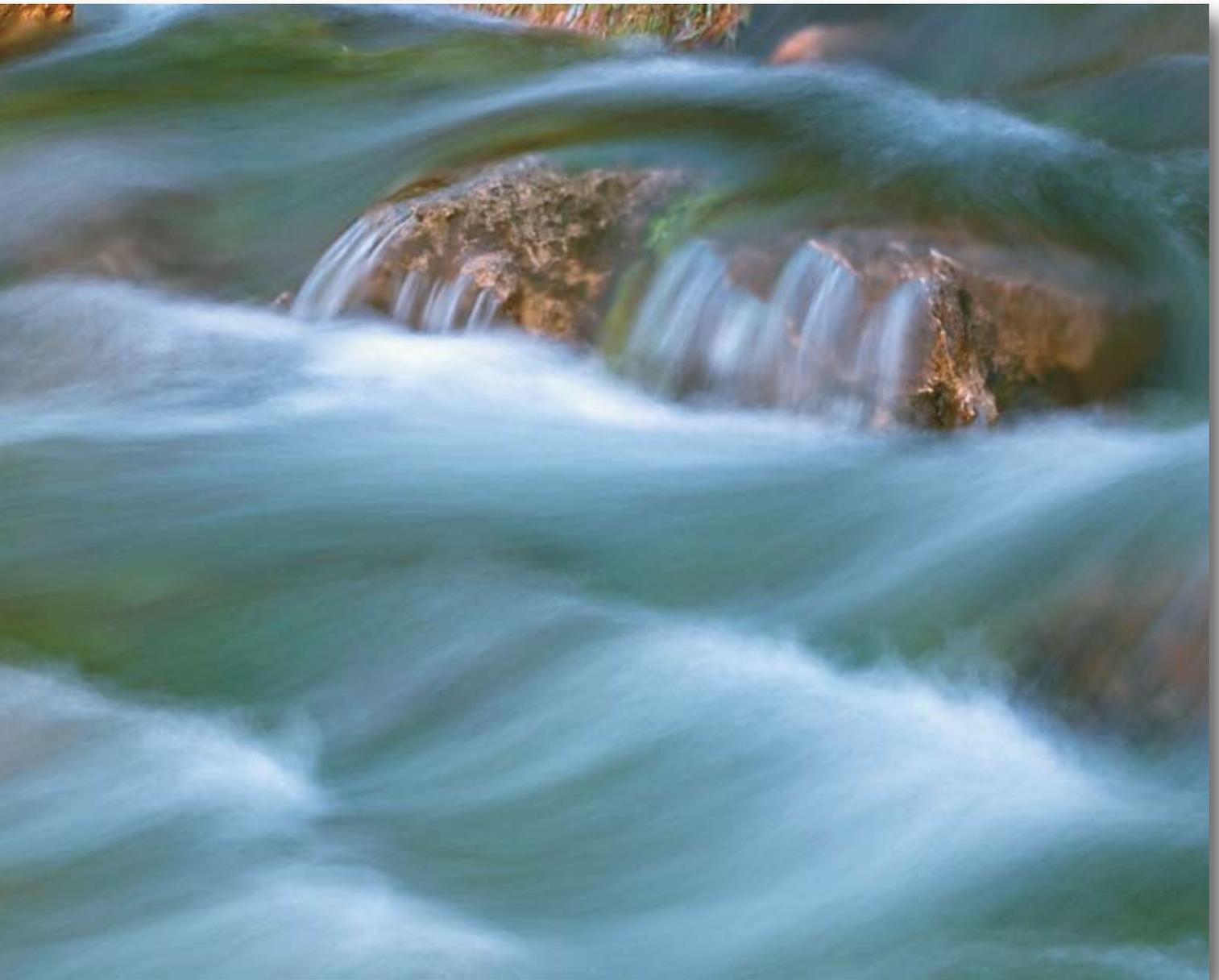


Jim Low is the Conservation Department's print news services coordinator. He spends as much time as he can hunting, fishing and beachcombing on the Missouri River, which he calls "Missouri's least-appreciated recreational resource."

B. Keith Wollard is a conservation agent in the Ozark Region and has had a 21-year career with the Conservation Department. Keith is actively involved in restoring dwindling quail populations. He enjoys hunting most game birds (especially behind good pointing dogs) and spending time with family on the lake.



When birds meet online.



Coldwater spring

Missouri has countless springs. Welch Spring is one of several on the Current River alone. If it were not for springs, many of Missouri's Ozark streams would be dry for much of the year.—*Jim Rathert*



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Missouri households*